AMSAT News Service Weekly Bulletins
Issue: ANS-188
Date: 2019-07-07
Sources: amsat-ans-2019-ans-188-weekly-hyperkitty-aa9cf5a445.txt

---

AMSAT NEWS SERVICE
ANS-188

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see:
http://www.amsat.org/mailman/listinfo/ans

In this edition:

* 2019 AMSAT Board of Directors Election Update
* Candidates for the AMSAT Board of Directors Announced
* Frank Karnauskas, N1UW Appointed as AMSAT VP for Development
* First Ever Contact via Moon Orbiting Transponder on LO-94
* First Call for Papers for the 50th Anniversary AMSAT Symposium
* Take W3ZM on the Road!
* ARISS-International Delegates Meet in Montreal
* JAISAT-1 telemetry beacon downlink on 435.325 MHz FM 4k8 GMSK
* Additional Amateur Radio Payloads to Launch with JAISAT-1
* VUCC Awards-Endorsements for July
*
* Upcoming Satellite Operations
* Satellite Shorts From All Over

SB SAT @ AMSAT $ANS-188.01
ANS-188 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 188.01
>From AMSAT HQ KENSINGTON, MD.
DATE: 2019 July 7
To All RADIO AMATEURS
BID: $ANS-188.01

2019 AMSAT Board of Directors Election Update

The 2019 AMSAT Board of Directors election will be conducted differently than in past elections. In previous years, the balloting process was handled by multiple vendors. This year, AMSAT has contracted with a single, independent party, ElectionBuddy, to conduct and fully manage the election process.

A ballot card will be mailed to all current members in accordance with the organization’s by-laws by or on July 15, 2019. You may cast your

ballot by visiting a unique URL or utilizing the QR code printed on the card. If you do not receive your ballot, you will need to contact ElectionBuddy. ElectionBuddy will be responsible for distributing ballots, collecting ballots, and tallying votes.

Individual candidates' statement of qualification (biographies) will be published on AMSAT's website and will be displayed on the ElectionBuddy website available to eligible voters.

AMSAT believes this voting system will result in greater election integrity as it removes the potential for any perceived conflicts of interest. ElectionBuddy will manage AMSAT's voter list and interaction with members regarding the election. This ensures voter anonymity. Individual ballot responses will never be shared with any volunteer or paid AMSAT staff.

Because AMSAT has contracted ElectionBuddy for a fully managed election, they will be voters' single point of contact regarding any ballot issues. The AMSAT Secretary or Office Manager may direct you to contact ElectionBuddy in situations deemed part of this fully managed election. Questions will not be answered on the AMSAT-BB or organizational Social Media accounts.

In the event that you are unwilling or unable to cast your ballot via the online mechanism, ElectionBuddy will mail you a specific ballot that must be returned to them within the parameters of our election time frame so that it is received by the office no later than September 15, 2019. If you choose this option, please understand it is at an increased cost to the organization.

Sincerely,
Clayton L. Coleman, W5PFG
AMSAT Secretary

[ANS thanks Clayton L. Coleman, W5PFG, AMSAT Secretary, for the above information]]

Candidates for the AMSAT Board of Directors Announced

The corrected list of 2019 candidates, in alphabetical order by last name are:

Jerry Buxton, N0JY
Howard (Howie) Defelice, AB2S
Drew Glasbrenner, KO4MA
Jeff Johns, WE4B
Brennan Price, N4QX
Patrick Stoddard, WD9EWK
Paul Stoetzer, N8HM
Michelle Thompson, W5NYV

This year AMSAT membership will select four candidates to the Board of Directors. The four candidates receiving the highest number of votes will be seated as voting members of the Board of Directors. Two alternate directors will be selected based on the next highest number of votes received.

Ballots will be mailed to the AMSAT membership by July 15, 2019.

The election closes September 15, 2019.

[ANS thanks Clayton L. Coleman, W5PFG, AMSAT Secretary, for the above

information.]

Frank Karnauskas, N1UW Appointed as AMSAT VP for Development

The AMSAT Board of Directors has elected Frank Karnauskas, N1UW, Vice President - Development This position carries the responsibility for fund raising, marketing and public relations for AMSAT programs. In addition to enhancing the AMSAT and ARISS brands within their traditional spheres, this position is expected to broaden the appeal of its activities to a wider market. This includes the educational, corporate and philanthropic sectors.

Joe Spier explains, "The cost of planning, building and launching satellites has risen exponentially over the past years. It is essential that we not only raise the Amateur Radio community's financial participation in these programs, we need to enlist the support of outside entities. We can only do this by demonstrating the value that Amateur Radio satellites bring to society's best interests. This is especially true for youth and educational programs where AMSAT's and ARISS' growth lies."

Frank comes to this position with a forty-five year career as a sales and marketing executive in the consumer and industrial markets. He was first licensed in 1963 and has been a long-term member of AMSAT and the ARRL. Frank also contributes to AMSAT as an AMSAT News Service Rotating Editor.

[ANS thanks AMSAT President Joe Spier, K6WAO for the above information]

+=+=+=

which embed a 13 character message, using the same frequency and a similar protocol to the one used to command the camera and other satellite functions. The precise definition of this mode is a 7.8125 baud FSK modulation with a shift of 394.53125Hz. Each FSK tone is "spread" with a 250 baud GMSK 32 bit syncword. The CCSDS 32 bit syncword is used to mark the beginning of a packet, and a Reed-Solomon (64,32) code is used for FEC, together with CCSDS scrambling. Such a message takes a bit longer than one minute to transmit. The uplink is in the 2m Amateur satellite band.

"The repeater downlink is the usual JT4G downlink of DSLWP-B in the 70cm Amateur satellite band. The 13 character messages sent in the uplink command replace the usual JT4G telemetry, being repeated as a free-form JT4G message. In the case of this QSO, the B1 radio at 436.400MHz was used. This radio was also used to transmit the images using GMSK SSDV."

Access EA4GPZ's full report at:
https://destevez.net/2019/07/analysis-of-dslwp-b-eclipse-test-run-again/

[ANS thanks Daniel Estevez, EA4GPZ for the above information]

First Call for Papers for the 50th Anniversary AMSAT Symposium

The 50th Anniversary AMSAT Annual Meeting and Space Symposium will be held on the weekend of October 18 – 20 at The Hilton Arlington, 950 North Stafford Street, Arlington, Virginia. Proposals for papers, symposium presentations, and poster presentations are invited on any topic of interest to the amateur satellite community. We request a tentative title of your presentation as soon as possible, with final copy to be submitted by September 23rd for inclusion in the printed proceedings. Abstracts and papers should be sent to Dan Schultz at n8fgv(at)amsat.org

[ANS thanks AMSAT for the above information]

Take W3ZM on the Road!

Leading up to the 2019 AMSAT 50th Anniversary Space Symposium and General Meeting, to be held in Arlington, VA, October 18 – 20, 2019, AMSAT’s call sign, W3ZM, will operate from all 50 States, the District of Columbia, and Puerto Rico. Not only is this your chance to get Worked All States-Satellites under the W3ZM call sign, but, also, your chance to be a part of this historic effort.

Note: When operating outside of the “3” call area, operators will append the W3ZM call sign with “/(call area).” As an example, someone operating from Texas will use W3ZM/5; from Hawaii, W3ZM/KH6; from Alaska, W3ZM/KL7; and from Puerto Rico, W3ZM/KP4.

To make this happen – We need your help! Please volunteer to get on the air and activate your State, using AMSAT’s W3ZM call sign, as well as to cover those States without an active AMSAT Member. Activations of other United States Territories (i.e. Guam, American Samoa, the U.S. Virgin Islands, and the Commonwealth of the Northern Mariana Islands) are also welcome.

To volunteer and operate using AMSAT’s W3ZM call sign, you must:
- Be a current member of AMSAT
- Obtain permission by emailing AMSAT VP of User Services, specifying

the requested date(s) and location(s)
- Submit an ADIF log of contacts made for upload to LoTW by AMSAT, as instructed in your notice of approval to use the W3ZM call sign

Additional information and a schedule of operations may be found at: https://www.amsat.org/events/was-w3zm/

[ANS thanks Robert Bankston, KE4AL, AMSAT VP of User Services, for the above information]

ARISS-International Delegates Meet in Montreal

Nine nations were represented as Amateur Radio on the International Space Station (ARISS) held its 2019 “face-to-face” meeting of international delegates at the Canadian Space Agency in Montreal, June 26–28. ARISS-Canada was the host for the gathering. A high point of the conference came when Kenwood software manager Shin Aota, JL1IBD, presented two Kenwood TM-D710GA transceivers to ARISS-Russia delegate Sergey Samburov, RV3DR. One of the TM-D710GA radios will replace aging Amateur Radio equipment currently in use on the International Space Station, while the other will remain on Earth as a spare for training cosmonauts. For more than a year, these radios have undergone detailed NASA qualification testing followed by final software configuration and verification.

“With today’s transfer of the radios to ARISS-Russia, we are one step closer to an enhanced Amateur Radio system on board the ISS, supporting various operations such as SSTV, voice communication, APRS, and a variety of experiments,” ARISS-International said in announcing the presentation. The ARISS Hardware Team met on June 25.

Those on hand for the event included Radio Amateurs of Canada President (RAC) and ARISS-Canada Delegate for RAC Glenn MacDonell, VE3XRA; AMSAT-NA President Joe Spier, K6WAO, and AMSAT-Italia President Emanuele D’Andria, I0ELE. ARRL Southeastern Division Director Greg Sarratt, W4OZK, attended in his role as chair of the ARRL Board’s new ARISS Committee. Rosalie White, K1STO, represented ARRL as an ARISS-US delegate and handled the duties of ARISS-International Secretary. The other ARISS-US delegate was Dave Taylor, W8AAS.

The French government’s proposal to consider 144–146 MHz for possible allocation to the Aeronautical Mobile Service drew some discussion. Other topics included ARISS’ future participation in NASA’s Deep Space Gateway (DSG) program. ARISS is the only noncommercial entity whose ideas are under study by the program. The ARISS plan focuses on Amateur Radio communication, including optical communication channels, as well as equipment development, team cooperation, education, and public outreach.

Canadian Space Agency Program Manager of the Lunar Gateway Program Ken Podwalski noted that Canadian Prime Minister Justin Trudeau announced that Canada will go to the moon. CSA provided the “Canadarm” robotic arm for the space shuttle and contributed the Mobile Servicing System, a sophisticated robotics suite that plays a critical role in ISS operations.

White and Taylor presented the ARISS-US Region Report, highlighting many of the accomplishments of the US team since the last ARISS face-to-face meeting.

Dave Honess of the European Space Agency presented some ideas for enhanced ARISS educational outreach. A future SSTV session to honor Owen

Garriott, W5LFL (SK), also came in for some discussion. Garriott was the first space traveler to use Amateur Radio from space. — Thanks to Dave Jordan, AA4KN, ARISS Public Relations, and Rosalie White, K1STO

[ANS thanks ARRL for the above information]

JAISAT-1 telemetry beacon downlink on 435.325 MHz FM 4k8 GMSK

JAISAT-1 was launched on July 5, 2019 at 05:41:46z along with a total of 33 satellites from 12 countries.

The JAISAT-1 telemetry beacon is at 435.325 MHz. The telemetry signal format is 4k8 GMSK Mobitex (same as Dstar one Sparro and iSAT CMX990 Mobitex Format) in accordance with the details from the IARU satellite co-ordinator site:
http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=521

This is keplerian element from simulated orbit the following as below:
JAISAT-SIM
1 77777U 19001a   19186.41724769 .00000000 00000-0 00000-0 0 00015
2 77777 098.5564 148.1307 0015651 161.6334 118.6706 15.15099188000017

All amateur radio operators capable of receiving signals from the JAISAT-1 satellite are invited to send the data by email to:
jaisatonetele(a)gmail.com
The Radio Amateur Society of Thailand will have a SWL card to confirm reception.

[ANS thanks Tanan Rangseeprom, HS1JAN, Project Manager of JAISAT-1, for the above information]

Additional Amateur Radio Payloads to Launch with JAISAT-1

When JAISAT-1 launches in July from the Vostochny Cosmodrome it will fly with additional amateur radio payloads, summarized below.

Berlin Technical University (Germany) Beesat-9 Coordination details at:
http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=657
A 1U Cubesat, BEESAT-9 is an educational, experimental satellite. The main objective is to verify 3- axes stabilization using a GPS receiver, reaction wheels and magnetorquers. A camera will take pictures of Earth to verify the attitude of the satellite. A new attitude control actuator, developed in a PhD thesis, will be first flown on BEESAT-9. The operations of the spacecraft will be conducted in lecture courses under the guidance of licensed radio amateurs.

The satellite will have a digipeater function to mirror a signal to another satellite or ground station. Furthermore, it will provide a beacon signal for radio amateurs, including telemetry. The amateur radio community is highly encouraged to collect telemetry data pack-ets, plans for special operations e.g. experiments shall be announced to the amateur radio community on the Internet. It is also planned to include the amateur radio community to receive parts of pictures, which will then be put together by TU Berlin and published on the Website and on social networks. proposing to use a UHF downlink with 4k8 or 9k6 Mobilex GMSK modulation. A downlink on 435,950 MHz has been coordinated by the IARU.

BEESAT-9 Will fly with BEESAT10-13 and MOVE-2B. More info from:
http://www.raumfahrttechnik.tu-berlin.de/menue/

forschung/aktuelle_projekte/beesat-4/parameter/en/
https://tinyurl.com/ANS-188-BEESAT-9

Munich Technical University (Germany) will demonstrate their innovative cubesat bus by launching MOVE-IIb. Coordination details at:
http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=645
A 1U CubeSat. Proposing a VHF QPSK 12k5 Bit/s downlink for telemetry and mission data with a UHF uplink capability for a cross band repeater. A downlink on 145,840 MHz has been coordinated. No additional amateur radio repeater operation is available at press time. The IARU release suggests to monitor for updated information on the mission website at: https://www.move2space.de/

Tallinn Technical University (Estonia) - an educational satellite TTU101 developed to test Earth observation cameras and a novel high speed X-band communication system. Coordination details at:
http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=660
The mission of TTU satellite is to perform remote sensing in visible and IR electromagnetic spectrum from 500-600 km polar orbit with 1U cubesat for educational and technology demonstration purposes. Another mission task is to test amateur 10.450 - 10.500 GHz band frequencies for high-speed data downlink operations. Proposing a 435 MHz downlink with data rates up to 9k6 GFSK/GMSK and also OQPSK downlink on 10.45 GHZ at data rates up to 20Mbs. Downlinks on 10460.000 MHz and 435.450 MHz with a beacon on 435.500 MHz have been coordinated.
More info at:
https://www.ttu.ee/projects/mektory-eng/satellite-programme-3/

Royal Institute of Technology KTH (Sweden) - SEAM-2.0 scientific spacecraft for measuring the magnetic field of the Earth.
http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=584
A 3U CubeSat intended to test a deployable boom carrying miniature sensors for measuring magnetic fields. A commercial S Band transceiver will operate in addition to a UHF transceiver using 9k6 GMSK. A downlink on 437.250MHz has been coordinated.

University of Wuerzburg (Germany) - SONATE, a cubesat for technology demonstration, and orbital verification of various satellite components and autonomous payloads. Coordination details at:
http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=572
The educational objective of this mission includes opportunities students to build and operate radio communication systems of space and ground segment systems. Such a system is the amateur payload of this satellite, a transceiver which is currently built by several students over the course of their theses. This transceiver will initially provide regularly SSTV downlinks with images from one of the on-board cameras. Other thesis for instance address the antenna deploy mechanism. The following downlink frequencies have been coordinated: 9k6 GMSK/GSFK AX25 telemetry 437.025 MHz and for SSTV 145.840 MHz

SkyFox Labs (Czech Republic) - Lucky-7 cubesat will demonstrate innovative solutions for 1U cubesat platform. Coordination details at:
http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=452
In addition to radio frequency operation the satellite includes high power LEDs transmitting in visible spectra (blue) to demonstrate EPS high power handling capability. Also included is a Digital Color camera module which will be used aboard the satellite to capture the images of Earth to confirm ADCS stabilization functionality and "high" data transfer throughput capability of the custom-built FSK onboard radio. A downlink on 437.525 MHz has been coordinated for a FSK downlink at variable bit rates up to 9k6. Data format information will be made available at http://www.lucky7satellite.org

Additional launch information can be found at:
https://tinyurl.com/y39pxhel

[ANS thanks the IARU and parabolicarc.com for the above information]

VUCC Awards-Endorsements for July

Here are the endorsements and new VUCC Satellite Awards issued by the ARRL for the period June 1, 2019 through July 1, 2019. Congratulations to all those who made the list this month!

CALL 01 Jun 01 Jul 2019
K5OE 1008 1079
K6FW 794 801 Correction
WD9EWK 550 567
N3GS 454 525
NS3L 457 475
K9UO 351 400
W5TD New 381
MI6GTY 281 354
KE8AKW 258 329
W7JSD 279 309
G0ABI 305 306
AD0HJ 250 282
KC9ELU 229 233
AJ4A 225 230
AB1OC 177 184
N7EGY 100 169
PU8RFL 157 166
PS8MT 156 165
AA8CH/N8R New 113
KC9VGG New 102
N6REK New 100
WD9EWK (DM45) New 100

[ANS thanks Ron Parsons, W5RKN for the above information]

Upcoming Satellite Operations

Hawaii (BL20) – July 5-8, 2019
Mark, N8MH will be operating as N8MH/KH6 and as W3ZM/KH6 July 5-8 from BL20, FM and linears. Possibility of other grids once there. Watch the Twitter feed for further announcements: https://twitter.com/N8MH

Wabakimi Provincial Park, Ontario (EO50) – July 4-10, 2019
Fred, VE3FAL, is heading off to Wabakimi Provincial Park July 4th-10th and will activate EO50 via FM satellites. Keep an eye on Fred’s Twitter feed for further updates: https://twitter.com/Fred_VE3FAL

UP and Ontario (EN85, EN86, EN87) July 6-13, 2019
Chris, AA8CH, is heading back up north MI July 6th. Staying in EN85, will also hit EN86 if any requests. July 13 going to stay in EN76/VE3, with activation of EN86/EN87 planned. DM or email Chris, if you need one of ’em. Keep an eye on Chris’ Twitter feed for further updates: https://twitter.com/charliehotel10

Montana (EN55) July 8-10, 2019
Dennis, N7EGY, will be in DN55 starting the evening of July 8th thru ~1800z July 10th. First priority is moving his daughter & family into their new home, but he’ll sneak away to play on the birds as able.

Keep an eye on Dennis' Twitter feed for specific pass announcements:
https://twitter.com/n7egy1

Iceland (HP93, HP94, HP95, IP03, IP05, IP13, IP14, IP15, IP24, IP25, IP35) – July 13-19, 2019
Adam, K0FFY, is taking his family (and his radios) to Iceland. He'll be staying in HP95 on July 13, IP15 on July 14-15, IP25 on July 16, IP03 on July 17-18, and HP94 on July 19. In total, he'll be passing through HP93, HP94, HP95, IP03, IP05, IP13, IP14, IP15, IP24, IP25, & IP35. There's a lot to see, so passes will be best effort & announced on Twitter shortly prior: https://twitter.com/K0FFY_Radio

For more information on the latest satellite roves and special events:
https://www.amsat.org/satellite-info/upcoming-satellite-operations/

[ANS thanks KE4AL for the above information]

Satellite Shorts From All Over

+ Several AMSAT members will be operating on satellites during the 13 Colonies Special Event this weekend:
  N2OA will be operating as K2A from FN03
  KG4AKV will operate as K2J from North Carolina
  N3CAL will represent Maryland from FM18 as K2F
  For more information see:
  http://www.13colonies.net/
  (ANS thanks N2OA, KG4AKV, and N3CAL for the above information)

+ An ARRL video introducing amateur radio to the public includes AMSAT Members N8HM, KM4LAO, and NP4JV:
  https://www.facebook.com/ARRL.org/videos/576779882849805/
  (ANS thanks ARRL for the above information)

+ Lunar-OSCAR 94 successfully imaged the solar eclipse from lunar orbit on July 2. The images were downloaded by BY2HIT and PI9CAM.
  https://pbs.twimg.com/media/D-ifQaaXsAAGBwd.jpg
  https://pbs.twimg.com/media/D-iDwjdUcAA8ehc.jpg
  https://pbs.twimg.com/media/D-iNUXCX4AEzjmQ.jpg
  https://pbs.twimg.com/media/D-iGqg9W4AAT3ue.jpg
  (ANS thanks Nico Janssen, PA0DLO for the above information.)

+ A nicely detailed description of equipment needed for access to the geosynchronous QO-100 by Tobias Mädel, DL4TMA was recently posted at:
  https://tbspace.de/qo100eshail2.html
  (ANS thanks Tobias Mädel, DL4TMA, for the above information)

+ NASA will celebrate the 50th anniversary of the historic Apollo 11 Moon mission and look to the future of exploration on the Moon and Mars with a live, two-hour television broadcast Friday, July 19, and partner-led events taking place across the country from July 16 through July 20. For details, see:
  https://www.nasa.gov/specials/apollo50th/index.html
  (ANS thanks NASA for the above information)

+ The Planetary Society's LightSail 2 spacecraft sprang loose from its Prox-1 carrier vehicle as planned on July 2, and sent its first signals back to mission control at Cal Poly San Luis Obispo in California. The satellite, with callsign WM9XPA, sends AX.25 FSK telemetry at 9600 bps on 437.025 MHz. Full news release at:
  https://tinyurl.com/y6dtauv2
  (ANS thanks The Planetary Society for the above information)

+ A reminder that AO-85 is in a low battery voltage condition. Please
  do not use the satellite while it is in eclipse, even if you hear it.
  Please send reports to the AMSAT-BB. They are welcome and helpful.
  (ANS thanks Drew Glasbrenner, KO4MA for the above information.)

+ On July 1, 1976, the main exhibition hall of the National Air and
  Space Museum in Washington, DC opened. AMSAT was on site with a
  portable satellite station on the steps of the museum and President
  Ford's dedication speech was transmitted through AO-7. Photos of
  this event were posted by AMSAT at
  https://twitter.com/AMSAT/status/1145679438744608769

+ The submission deadline for AMSAT Field Day scores is July 8th.

/EX

In addition to regular membership, AMSAT offers membership in the
President's Club. Members of the President's Club, as sustaining
donors to AMSAT Project Funds, will be eligible to receive addi-
tional benefits. Application forms are available from the AMSAT
Office.

Primary and secondary school students are eligible for membership
at one-half the standard yearly rate. Post-secondary school students
enrolled in at least half time status shall be eligible for the stu-
dent rate for a maximum of 6 post-secondary years in this status.
Contact Martha at the AMSAT Office for additional student membership
information.

73 and Remember to help keep amateur radio in space,
This week's ANS Editor,

K0JM at amsat dot org